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EXAMINER

EDELMAN, BRADLEY E

ART UNIT	PAPER NUMBER
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2153

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Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary

Application No

09/724,336

Applicant(s)

CHOW ET AL.

Examiner

Bradley Edelman

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 November 2000.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-31 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 28 November 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

This is a first Office action on the merits of this application. Claims 1-31 are presented for examination.

Specification

1. The disclosure is objected to because of the following informalities:
 - a. On p. 11, line 1, the phrase "each table entry in columns 602-610 *include* sub-entries..." (emphasis added) appears to contain incorrect grammar.
 - b. On p. 11, line 3, there appears to be a typographical error in the phrase "the client *ay* be directed to a host..." (emphasis added).
 - c. On p. 12, line 11, the term "the tracked efficiency rating *incorporate* status information..." (emphasis added) appears to contain incorrect grammar.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. **Claims 1-21, 23-25, and 28-30 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.**

In considering claim 1, the term “the second server” on lines 7-8 of the claim lacks sufficient antecedent basis. Note that changing the phrase to “a second server” would cure this problem.

Claims 2-11 depend from claim 1 and are thus rejected as well.

In further considering claim 3, the phrase “said directing by the first server” lacks sufficient antecedent basis. Note that claim 1, from which claim 3 depends, discloses “directing the client...” but does not disclose that the directing is by the first server. Therefore, it is not clear what the phrase “said directing by the first server” in claim 3 is referring to.

In further considering claim 8, the phrase “a local storage device” is ambiguous because it is not clear what “local” refers to. The term “local” can refer either to a client or one of a plurality of servers, and the claim does not clarify to which device the term “local” refers.

In further considering claim 9, the phrase “said requested first network resource” on lines 3-4 of the claim lacks sufficient antecedent basis. The claim previously mentions “requesting network resources” but does not disclose a particular “first network resource.”

In considering claim 12, the claim has the same antecedent basis problem as claim 1 – notably, “the second server” mentioned on lines 10-11 lacks sufficient antecedent basis. In addition, regarding claim 12, the phrase “said servers” on line 5 of the claim also lacks sufficient antecedent basis.

Claims 13-21 depend from claim 12 and are thus rejected as well.

In addition, all of claims 13-21 begin by reciting recite "an apparatus" of one of the preceding claims. These recitations lack sufficient antecedent basis because claim 12, from which all of claims 13-21 depend, does not disclose an apparatus. Instead, claim 1 only mentions "an article."

In further considering claim 19, the claim is worded in such a way as to render it ambiguous. The claim first describes "determining an end-user delay between requesting network resources from said servers." This phrase alone is confusing. It is not clear if the end-user delay is a delay occurring when one requesting resource contacts another requesting resource, or if it is a delay between a server and resource, or a server and a user. The term "resource" as defined in the specification, refers to data that is passed between computers on the network (see p. 11 of specification). Therefore, it is further confusing how there can be a delay between resources (i.e. data) in the system. Add to this the second phrase, which cites "and the client's receiving said requested resources in response thereto," and the claim becomes even more confusing. For instance, are the "resources" making requests, as the first phrase implies, or are they *being* requested, as the second phrase requested? For these reasons, the claim is not clear.

In further considering claim 21, the phrase "contacting said fist one" on line 7 appears to contain a typographical error (i.e. "fist" should probably read "first") and also lacks sufficient antecedent basis, as no "fi[r]st one" is mentioned previously in the claim.

In considering claim 23, the phrase "contacting, by the client, of the server" on lines 2-3 and 4-5 is ambiguous. Perhaps the word "of" should be removed from the phrase, although it is not clear if that is the intent of the phrase. As presently worded, the claim ends with a verb ("contacting") having two modifiers (by the client, of the first server), but no subject. Thus, it is not clear what is being contacted.

Claims 24 and 25 depend from claim 23 and are thus rejected as well.

In further considering claim 24, the claim contains the phrase "maintaining by the second server of a rating table" (emphasis added). The word "of" renders the claim ambiguous.

Claims 28-29 contain the same ambiguities as claims 23-24, and are thus rejected for the same reasons.

Claims 29 and 30 depend from claim 28 and are thus rejected as well.

In further considering claim 30, the term "said predicted communication" on lines 7-8 of the claim lacks sufficient antecedent basis. It appears that the term should be followed by the word "efficiency."

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the

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applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-5, 10, 12-15, and 20 are rejected under 35 U.S.C. 102(e) as being anticipated by Watson (U.S. Patent No. 6,223,209).

Regarding claim 1, Examiner has interpreted the phrase "the second server" on lines 7-8 of the claim to mean "a second server."

In considering claim 1, as understood, Watson discloses a method for locating an efficient server among servers mirroring a network site (col. 2, lines 52-59, "mirror server sites"), comprising:

Receiving by a first server ("server 1," also called the "primary server") an incoming connection from a client ("client 2" or "client 3") in communication with said servers over a network (col. 2, lines 45-47; col. 3, 41-44);

Providing a first efficiency rating ("least number of router hops or the highest bandwidth path," col. 3, lines 66-67) for communication between the first server and the client, and providing a second efficiency rating for communication between a second server and the client (col. 3, lines 64-67, "primary server determines which satellite server is closest to the client"; col. 4, lines 4-8, wherein one method of determining the closest server includes "maintain[ing] a table of catalogue or client addresses together with an identification of *the primary or satellite* server closest to each client entry in the table" (emphasis added). Thus, the primary server measures its own efficiency and the second server efficiency to determine which server to subsequently connect to); and

Directing the client to subsequently communicate with the second server when the second efficiency rating is better than the first efficiency rating (col. 4, lines 1-3, wherein a home page is returned to the client with links to the second server, which links thereby direct the client to subsequently communicate with the second server).

In considering claim 2, Watson further discloses that providing the efficiency rating comprises either measuring the efficiency between the first server and the client (col. 4, lines 12-24, using a technique similar to a "traceroute" approach upon receipt of a client request), or looking up a previously measured communication efficiency between the first server and the client (col. 4, lines 4-11, "maintain a table or catalogue of client addresses together with an identification of the primary or satellite server closest to each client entry in the table").

Regarding claim 3, Examiner has interpreted the claim as including a step that "the first server performs the step of directing mentioned in claim 1." In considering claim 3, as understood, Watson further discloses that the first server performs the directing step ("primary or home server, www.xyz.com, then returns a home page," col. 4, lines 1-2) and that directing by the first server comprises returning a network resource ("home page") to the client containing at least one reference therein to the second server (i.e. "links pointing to appropriately selected satellite server, e.g. www.xyz2.com," col. 4, lines 2-3).

In considering claim 4, Watson further discloses that the reference comprises a web page element ("home page") linking to the second server such that activation thereof by the client causes the client to contact the second server (col. 4, lines 1-3, "primary or home server, www.xyz.com, then returns a home page with subsequent links pointing to appropriately selected satellite server, e.g. www.xyz2.com," col. 4, lines 2-3).

In considering claim 5, Watson further discloses that the network resource received from the first server comprises a tag based structure having embedded identifiers specifying resources located on the network (i.e. a home page with links, col. 4, lines 1-3), wherein at least one reference is an embedded identifier specifying a network resource of the second server (i.e. "links pointing to appropriately selected satellite server, e.g., www.xyz2.com").

In considering claim 10, Watson further discloses that the connection from the client is generated by a browser ("browser," col. 3, line 58), and wherein the efficiency rating measures efficiency of delivering web page resources to the client (i.e. which page server, www.xyz.com, www.xyz2.com, etc. has the highest bandwidth path, col. 3, lines 62-67).

Regarding claim 12, Examiner has interpreted the terms "said servers" on line 5 and the second server on lines 10-11 as if they had contained sufficient antecedent

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basis. Claim 12, as thus understood, presents an article comprising a storage medium with instructions for execution, which article performs the same method steps described in claims 1 and 2 combined. Therefore, claim 12 is rejected for the same reasons given regarding claims 1 and 2 (see col. 2, lines 44-59; col. 3, lines 41-44, 64-67; col. 4, lines 1-8).

Regarding claims 13-21, Examiner has interpreted the terms "apparatus" in each of the claims as if line 1 of claim 12 had read "apparatus" rather than "article."

In considering claim 13, claim 13 presents instructions for performing the same steps as claim 3, and is thus rejected for the same reason as claim 3 (see col. 4, lines 1-3).

In considering claim 14, claim 14 presents an apparatus for performing the same steps as claim 4, and is thus rejected for the same reason as claim 4 (see col. 4, lines 1-3).

In considering claim 15, claim 15 presents an apparatus for performing the same steps as claim 5, and is thus rejected for the same reason as claim 5 (see col. 4, lines 1-3).

In considering claim 20, claim 20 presents an apparatus for performing the same steps as claim 10, and is thus rejected for the same reason as claim 10 (see col. 3, lines 58-67).

4. Claims 1-3, 7-10, 12-13, 17-20, 22-23, and 27-28 are rejected under 35 U.S.C. 102(e) as being anticipated by Logan et al. (U.S. Patent No. 6,578,066, hereinafter "Logan").

In considering claim 1, as understood, Logan discloses a method for locating an efficient server among servers mirroring a network site ("distributed sites" that "each enable client access to the same content and applications," col. 4, lines 30-36; col. 5, lines 3-5), comprising:

Receiving by a first server ("distributed server switch 108") an incoming connection from a client ("receives a domain name server query that originated with client 102") in communication with said servers over a network (col. 4, lines 47-50);

Providing a first efficiency rating ("best site," "minimum delay," "response times") for communication between the first server and the client, and providing a second efficiency rating for communication between a second server and the client (col. 5, lines 48-67; col. 6, lines 34-40, wherein "the response times of each remote server [of a distributed server switch site] are recorded... [and] communicated by each switch to all other switches"); and

Directing the client to subsequently communicate with the second server when the second efficiency rating is better than the first efficiency rating (col. 5, lines 38-45, "if

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the server switch 106, 108, or 110 that client 102 has been pointed to suddenly experiences a failure or is overloaded, it will issue an 'HTTP redirect.' The client 102 is thus commanded to go to a different server switch 106, 108, or 110").

In considering claim 2, Logan further discloses that providing the efficiency rating comprises either measuring the efficiency between the first server and the client, or looking up a previously measured communication efficiency between the first server and the client (col. 6, lines 4-11, 18-26, 34-41, wherein the efficiency ratings for client access to a "best server" are maintained at the server switches).

In considering claim 3, as understood, Logan further discloses that the first server performs the directing step ("issue[s] an 'HTTP redirect'") and that directing by the first server comprises returning a network resource to the client containing at least one reference therein to the second server (i.e. "client 102 is thus commanded to go to a different server switch 106, 108, or 110," such that the HTTP redirect is the resource and it comprises a reference to redirect the client to the second server; col. 5, lines 38-45).

In considering claim 7, Logan further discloses that each of the servers store efficiency ratings on a commonly accessible storage device (col. 6, lines 33-40, "the response times... are recorded at main site 202... [and] this information is also

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communicated by each switch to all other switches," wherein the switches are the "distributed server switches" for managing each site).

Regarding claim 8, Examiner has interpreted the "local storage device" as meaning a storage device local to the server. In considering claim 8, as understood, Logan further discloses storing efficiency ratings for communication with the client on a local storage device (col. 6, lines 33-40, i.e. each switch stores on its local storage the efficiency ratings), and retrieving at least one of the stored efficiency ratings from said second server over a communication channel different from the network (same cited section, wherein each switch sends its efficiency information to each other switch). Note that a communication channel will always be different from a network, since a communication channel and a network are different things (i.e. a communication channel is an optical fiber, a telephone wire, a cable, or other medium capable of carrying data, wherein a network is a group of communicatively coupled computers).

Regarding claim 9, Examiner has interpreted the phrase "said requested first network resource" as meaning "said requested network resource." In considering claim 9, as understood, Logan further discloses providing the efficiency rating by determining an end-user delay between the client's request for network resources to a server, and a client's receipt of the resource from the server (i.e. measuring the "response time" for a client request, col. 5, lines 3-13; col. 6, lines 30-40).

In considering claim 10, Logan further discloses that the connection from the client is generated by a browser ("web-browser program," col. 3, lines 45-48), wherein the efficiency rating measures efficiency of delivering web page resources to the client (i.e. pages "www.alteon.com," col. 5, lines 51-59).

In considering claim 12, as understood, claim 12 presents an article comprising a storage medium with instructions for execution, which article performs the same method steps described in claims 1 and 2 combined. Therefore, claim 12 is rejected for the same reasons given regarding claim 1 and 2 (see col. 4, lines 30-36, 47-50; col. 5, lines 3-5, 38-45, 48-67; col. 6, lines 34-40).

In considering claim 13, claim 13 presents instructions for performing the same steps as claim 3, and is thus rejected for the same reason as claim 3 (see col. 5, lines 38-45).

In considering claim 17, claim 17 presents an apparatus for performing the same steps as claim 7, and is thus rejected for the same reason as claim 7 (see col. 6, lines 33-40).

In considering claim 18, claim 18 presents an apparatus for performing the same steps as claim 8, and is thus rejected for the same reason as claim 8 (see col. 6, lines 33-40).

In considering claim 19, claim 19 is ambiguous. However, due to its structure, and because it appears that claims 3-11 parallel claims 13-21, Examiner has interpreted claim 19 as being the equivalent apparatus claim to the method of claim 9, and thus as containing the same steps as claim 9. For this reason, claim 19 is rejected for the same reasons as claim 9 (see col. 5, lines 3-13; col. 6, lines 30-40).

In considering claim 20, claim 20 presents an apparatus for performing the same steps as claim 10, and is thus rejected for the same reason as claim 10 (see col. 5, lines 51-59).

In considering claim 22, Logan discloses a method comprising:

Determining a first server being geographically closer to a client than a second server on a network (col. 4, lines 47-65, wherein the DNS server resolves the URL "www.alteon.com" to determine the IP addresses of the mirrored servers at different geographical locations; col. 5, lines 3-13, wherein the system accounts for the registered location of the client and servers in determining a policy for selecting a switch);

Determining a first efficiency rating ("best site," "minimum delay," "response times") for communication between the client and the first server, and determining a second efficiency rating for communication between the client and a second server (col. 5, lines 48-67; col. 6, lines 34-40, wherein "the response times of each remote server [of

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a distributed server switch site] are recorded... [and] communicated by each switch to all other switches"); and

Evaluating whether the second efficiency rating exceeds the first efficiency rating, and if so, then providing a web page of the first server which contains content link to the second server (col. 5, lines 38-45, wherein if the server switch is "overloaded," then the client directs its HTTP request to the second server to obtain the same "alteaon.com" web page provided by the first server, but with all data and links pointing to the second server).

In considering claim 23, claim 23 has been interpreted as follows:

The method of claim 22, further comprising:

Determining said first efficiency rating of the first server, based at least in part on first contacting the client; and

Determining the second efficiency rating of the second server, based at least in part on second contacting the first server.

As understood, claim 23 is further disclosed by Logan. Logan discloses determining the first efficiency rating of the first server based on first contacting the client (col. 5, lines 7-14, wherein the system determines the response times between clients and servers, which would necessarily be determined by contacting the client). Logan further discloses determining the second efficiency rating of the second server (same citation), wherein the system determines the response time between the client and the second server by contacting the first server and viewing the stored efficiency

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information at the first server (col. 4, lines 1-11, 33-40, wherein each server switch sends its response time information to each of the other server switches).

In considering claim 27, claim 27 further presents an article having a processor and a storage medium having instructions for performing the same steps as claim 22. Therefore, claim 27 is rejected for the same reasons as claim 22.

In considering claim 28, claim 28 presents the same ambiguities as claim 23, and further presents instructions for performing the same steps as claim 23. Therefore, claim 28 is rejected for the same reasons as claim 23.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 11, 21-23, 26-28, and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watson, in view of Applicant's admission of the prior art.

In considering claim 11, inherent in the system taught by Watson is the step of contacting a resolution service (i.e. whenever a URL is entered, it must be resolved into a numerical IP address). This service would include selecting the first computer (i.e. home server) upon resolving the URL in the system taught by Watson. Watson further

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teaches contacting the second server in accordance with the second server having the higher efficiency rating (i.e. fewer hops or higher bandwidth path, col. 3, lines 65-67), notwithstanding whatever selection process was used to resolve the address to initially contact the first server.

Therefore, the only step of claim 11 that Watson does not inherently or explicitly disclose is that the resolution service causes the first server to be initially selected based on its being geographically closest to the client. Nonetheless, such a resolution technique is well known, as evidenced by Applicant's admission of the prior art on page 5 of the specification. Lines 11-18 of page 5 state, "Assuming a prior art geographic-base resolution strategy, if the United States based Network Host 108 is closest to Client 1 100, then when Client 1 100 attempts to resolve the Original Network Site's 106 network name, DNS 1 114 will direct Client 1 to the United States Network Host." Given this knowledge, a person having ordinary skill in the art would have readily recognized the desirability and advantages of performing the initial inherent DNS resolution in the system taught by Watson based on the closest geographical server to the client, as the admitted prior art teaches, because a closest geographical server (i.e. one on the same continent as the client) is likely to have a faster response time than a server that is further away (i.e. one half way across the world). Therefore, it would have been obvious to use the known prior art geographical method to resolve the initial URL request made by the client in the system taught by Watson.

Regarding claim 21, the term "said first one" on line 7 of the claim has been interpreted as meaning "said first server." In considering claim 21, as understood, claim 21 presents substantially the same limitation as claim 11. Note that claim 21 further elaborates that a "network site identifier" is provided to the resolution service. Nonetheless, this is the URL mentioned in Watson and described with regard to claim 11 above. Thus, claim 21 is rejected for the same reasons as stated with regard to claim 11 above.

In considering claim 22, Watson discloses a method comprising:

Determining a first server on a network (col. 3, lines 51-60, wherein a DNS server will inherently resolve the URL "www.xyz.com" to determine the IP address of the home server, as described above with regard to claim 11);

Determining a first efficiency rating ("least number of router hops or the highest bandwidth path," col. 3, lines 66-67) for communication between the client and the first server, and determining a second efficiency rating for communication between the client and a second server (col. 3, lines 64-67, "primary server determines which satellite server is closest to the client"; col. 4, lines 4-8, wherein one method of determining the closest server includes "maintain[ing] a table of catalogue or client addresses together with an identification of the primary or satellite server closest to each client entry in the table" (emphasis added); and

Evaluating whether the second efficiency rating exceeds the first efficiency rating, and if so, then providing a web page of the first server which contains content link to the

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second server (col. 3, line 65 – col. 4, line 3, “primary or home server, www.xyz.com, then returns a home page with subsequent links pointing to appropriately selected satellite server, e.g. www.xyz2.com.”).

Therefore, the only step of claim 22 that Watson does not inherently or explicitly disclose is that the resolution service causes the first server to be initially selected based on its being geographically closest to the client. Nonetheless, such a resolution technique is well known, as evidenced by Applicant’s admission of the prior art on page 5 of the specification. Lines 11-18 of page 5 states, “Assuming a prior art geographic-base resolution strategy, if the United States based Network Host 108 is closest to Client 1 100, then when Client 1 100 attempts to resolve the Original Network Site’s 106 network name, DNS 1 114 will direct Client 1 to the United States Network Host.” Given this knowledge, a person having ordinary skill in the art would have readily recognized the desirability and advantages of performing the initial inherent DNS resolution in the system taught by Watson by determining a that the first server is geographically closer to the client than a second server, as the admitted prior art teaches, because a closest geographical server (i.e. one on the same continent as the client) is likely to have a faster response time than a server that is further way (i.e. one half way across the world). Therefore, it would have been obvious to use the known prior art geographical method to resolve the initial URL request made by the client in the system taught by Watson.

In considering claim 23, claim 23 has been interpreted as follows:

The method of claim 22, further comprising:

Determining said first efficiency rating of the first server, based at least in part on first contacting the client; and

Determining the second efficiency rating of the second server, based at least in part on second contacting the first server.

As understood, claim 23 is further disclosed by Watson. Watson discloses determining the first efficiency rating of the first server (col. 3, 65-67; col. 4, lines 6-9, wherein the system determines the number of hops between the client and the first server, which would necessarily be determined by contacting the client). Watson further discloses determining the second efficiency rating of the second server (col. 3, line 65-67, wherein both server efficiency ratings are compared), wherein the system determines the number of hops between the client and the second server by contacting the first server and viewing a client table at the first server (col. 4, lines 1-11).

In considering claim 26, Watson further discloses that if the second efficiency rating exceeds the first efficiency rating, then receiving a web page ("home page") from the first server with all web links directed towards the second server, and if the first efficiency rating exceeds the second efficiency rating, then receiving the web page from the first server with all web links directed towards the first server (col. 4, lines 1-9, "returns a home page with subsequent links point to appropriately selected satellite server," wherein the satellite server selected is the "primary or satellite server closest to each client entry in the table.").

In considering claim 27, claim 27 further presents an article having a processor and a storage medium having instructions for performing the same steps as claim 22. Therefore, claim 27 is rejected for the same reasons as claim 22.

In considering claim 28, claim 28 presents the same ambiguities as claim 23, and further presents instructions for performing the same steps as claim 23. Therefore, claim 28 is rejected for the same reasons as claim 23.

In considering claim 31, claim 31 presents instructions for performing the same steps as claim 26, and is thus rejected for the same reasons as claim 26.

6. Claims 6, 9, 16, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watson, in view of Emens et al. (U.S. Patent No. 6,606,643, hereinafter "Emens").

In considering claim 6, Watson discloses a method of dynamically selecting a closest server to the client (col. 4, lines 12-24). However, Watson does not disclose that the dynamic method includes returning a network resource to the client such that the resource causes the client to contact the second server so that the second server can measure a second efficiency rating for client communication, and retrieving the second efficiency rating. Nonetheless, this sort of dynamic response-time detection

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method for determining communication efficiency is well known, as evidenced by Emens.

In a similar art, Emens discloses a system for selecting from among a group of mirrored servers to communicate with a requesting client (col. 7, lines 57-62), wherein a first server returns a network resource to the client (col. 8, lines 20-23, "the host server 12 returns the requested web content, but also returns a list of mirror server addresses with the web content"), configures the network resource to cause the client to contact the second server so that the second server can measure a second efficiency rating for communication with the client (col. 8, lines 25-40, wherein each applet from the client "makes an identical HTTP mirror server request to its corresponding mirror server... [and] measures the round trip latency"), and retrieves the second efficiency rating (col. 8, lines 38-40, "round trip times are compared between applets and a 'winner applet' having the lowest time is identified.").

Thus, the claimed method of determining an efficiency rating of a second mirrored server in a mirrored server system is well known. A person having ordinary skill in the art would have readily recognized the desirability and advantages of using the well-known method taught by Emens in the system taught by Watson, so that the system could select a current, most efficient mirrored server, rather than relying on a potentially dated efficiency table. Thus, it would have been obvious to include the efficiency rating mechanism taught by Emens in the system taught by Watson.

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In considering claim 9, as understood, the combined system of Watson and Emens, as discussed with regard to claim 6, discloses providing the efficiency rating by determining an end-user delay (i.e. "round trip latency") between the client's request for network resources to a server, and a client's receipt of the resource from the server (col. 8, lines 20-40, wherein the client makes HTTP requests to each of the mirrored servers, receives responses, and then measures the latency between each communication). It would have been obvious to a person having ordinary skill in the art to include this feature in the system taught by Watson, so that the system could select a current, most efficient mirrored server, rather than relying on a potentially dated efficiency table.

In considering claim 16, claim 16 presents an apparatus for performing the same method taught in claim 6. Therefore, claim 16 is rejected for the same reasons as claim 6.

In considering claim 19, claim 19 is ambiguous. However, due to its structure, and because it appears that claims 3-11 parallel claims 13-21, Examiner has interpreted claim 19 as being the equivalent apparatus claim to the method of claim 9, and thus as containing the same steps as claim 9. For this reason, claim 19 is rejected for the same reasons as claim 9.

7. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Watson, in view of Applicant's admission of the prior art, and further in view of Logan.

Regarding claim 24, Examiner has interpreted the phrase "of a rating table" as meaning "a rating table." In considering claim 24, Watson further discloses:

Maintaining by the first server a rating table indexed according to client network addresses, and storing in said table an entry for the closest site hosting a copy of the web site, each entry indicating a measured communication efficiency between the client and each corresponding hosting site (col. 4, lines 4-11, "maintain a table or catalogue of client addresses together with an identification of the primary or satellite server closest to each client entry in the table").

However, neither Watson, nor Applicant's admission of the prior art discloses maintaining the table at the *second* server, or sending the efficiency information regarding the client-to-second server efficiency to the first server. Nonetheless, as described previously, sending stored efficiency information between multiple site servers of a mirrored server system is well known, as evidenced by Logan (see col. 6, lines 34-40). Given this knowledge, a person having ordinary skill in the art would have readily recognized the desirability and advantages of sending the efficiency tables to each of the servers in the system taught by Watson and the admitted prior art, so that all servers are aware of the most up-to-date efficiency information available throughout the system, thereby increasing overall system response time and efficiency. Therefore, it would have been obvious to include the step of maintaining the efficiency information

at the second server and sending the efficiency information to the first server, as taught by Logan, in the system taught by Watson and the admitted prior art.

Furthermore, Watson does not explicitly disclose that the table necessarily includes an entry for *each* site hosting a copy of the web site. Instead, Watson describes storing at least the *closest* site hosting a copy of the web site (col. 4, line 8). Nonetheless, in order for the table of Watson to store the closest site, it would have to also know which other sites are available, and how far they are from the client. Such information would have to be stored somewhere for the comparison to be made. Thus, the Watson system necessarily stores efficiency information for each hosting site, and it would have been obvious to a person having ordinary skill in the art to use a table for such storage, because tables can be easily and quickly searched, thereby improving the speed and efficiency of the system.

8. Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over Watson, in view of Applicant's admission of the prior art, further in view of Logan, and further in view of Coile et al. (U.S. Patent No. 6,317,775, hereinafter "Coile").

Regarding claim 29, Examiner has interpreted the term "said predicted communication" on lines 7-8 of the claim as meaning "said predicted communication efficiency." In considering claim 29, claim 29 presents an article for performing substantially the same method taught in claim 24. The only significant difference between claim 29 and claim 24 is that claim 29 stores *predicted* communication efficiencies in the table, but claim 24 stores *measured* efficiencies.

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Neither Watson, nor the admitted prior art, nor Logan disclose storing predicted efficiency information. Nonetheless, predicting efficiency rates in a mirrored server environment is well known, as evidenced by Coile. In a similar art, Coile discloses a mirrored server system wherein a server is selected for communicating with a client based on a predicted efficiency rating of the server (Abstract, "session distribution schemes which route connections based on the predicted response times of the servers"; see also, col. 3, lines 20-35). Given the teaching of Coile, a person having ordinary skill in the art would have readily recognized the desirability and advantages of using a predicted efficiency rating, in combination with or instead of the measured efficiency rating taught by Watson, the admitted prior art, and Logan, in order to avoid server overload before it even begins to occur. Therefore, given the teaching of Coile, it would have been obvious to include predicted efficiencies in the table of the system taught by Watson, the admitted prior art, and Logan.

Note: The inventions claimed in claims 25 and 30, including all of the limitations of the claims from which they depend, were not found in the prior art. However, claims 25 and 30 depend from claims 23 and 28 respectively, each of which is ambiguous. Therefore, claims 25 and 30 cannot be considered to contain allowable subject matter at this point because the subject matter of the claims is unclear.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bradley Edelman whose telephone number is (703) 306-3041. The examiner can normally be reached on Monday to Friday from 8:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glen Burgess can be reached on (703) 305-4792. The fax phone numbers for the organization where this application or proceeding is assigned are as follows:

For all correspondences: (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.



BE
March 15, 2004